

ABSTRACT

A single phase consisting of a ThMn₁₂ phase can be obtained by having the composition thereof represented by a general formula R(Fe_{100-y-w}Co_wTi_y)_xSi_zA_v (in the general formula, R is at least one element selected from rare earth elements (here the rare earth elements signify a concept inclusive of Y), Nd accounts for 50 mol% or more of R, and A is N and/or C) in which the molar ratios in the general formula are such that x = 10 to 12.5, y = (8.3 - 1.7 × z) to 12.3, z = 0.1 to 2.3, v = 0.1 to 3 and w = 0 to 30, and the relation (Fe + Co + Ti + Si)/R > 12 is satisfied.